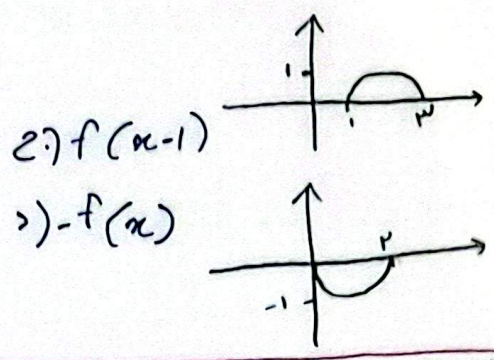
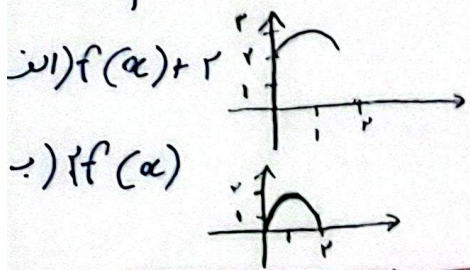
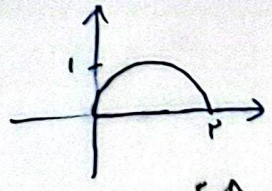




الف) $x^2 - 5x + 4 > 0$. $x^2 - 5x + 4 > 0 \rightarrow x(x-5) > 0$ $(-\infty -1) \cup (4 + \infty)$

$x(x-5) - 4 > 0$ $\frac{-1}{+} \frac{4}{-} \frac{+}{+}$

ب) $x^2 - 6x + 5 < 0$. $x(x-6) + 5 < 0$ $\frac{1}{+} \frac{5}{-} \frac{0}{+}$ (1 5)

$+5 \leq +1$

ج) $x^2 + 4x + 5 \geq 0$. $x(x+4) + 5 \geq 0$ $\frac{-5}{+} \frac{-1}{-} \frac{+}{+}$ $(-\infty -5] \cup [-1 + \infty)$

$-1 -5$

د) $x^2 - 7x + 6 \leq 0$. $x(x-7) + 6 \leq 0$ $\frac{1}{+} \frac{6}{-} \frac{+}{+}$ $[1 6]$

$6 \leq 1$

$\frac{x^2 - 3x + 2}{x - 5} < 0$. $\frac{x^2 - 3x + 2}{x - 5} < 0 \rightarrow x(x-3) + 2 < 0$ $\frac{1}{-} \frac{2}{+} \frac{0}{-}$

الف) $0 \rightarrow x - 5 > 0$ $x > 5$ $(-\infty 1) \cup (2 \infty)$

ب) $\frac{x^2 - 1}{x^2 - 2x + 5} \geq 0$. $x^2 - 1 = (x-1)(x+1)$

$\frac{(x-1)(x+1)}{x^2 - 2x + 5} \geq 0$ $\frac{-1}{+} \frac{1}{-} \frac{0}{+}$ $(-\infty -1] \cup (0 + \infty)$

الف) $y = \sqrt{\frac{x^2 - 1}{x^2 - x}}$ $x^2 - 1 \geq 0 \rightarrow x^2 - 1 \geq 0$ $x(x-1) \geq 0$ $\frac{1}{+} \frac{1}{-} \frac{0}{+}$

$x^2 - 1 \geq 0 \rightarrow x^2 - 1 \geq 0$ $x(x-1) \geq 0$ $\frac{1}{+} \frac{1}{-} \frac{0}{+}$ $D_f = (-\infty -1) \cup (1 + \infty)$

ب) $y = \sqrt{\frac{x^2 - 1}{x^2 - 5x + 4}}$ $x^2 - 1 \geq 0 \rightarrow x^2 - 1 \geq 0$ $x(x-1) \geq 0$ $\frac{-1}{+} \frac{1}{-} \frac{0}{+}$

$x^2 - 5x + 4 \geq 0 \rightarrow (x-1)(x-4) \geq 0$ $\frac{-1}{+} \frac{1}{-} \frac{0}{+}$ $(-\infty -1] \cup (4 + \infty)$

$D_f =$

الف) $y = \sqrt{4 - \sqrt{2}x} \rightarrow \sqrt{4 - x} \geq 0$ $4 - \sqrt{2}x \geq 0$
 $x \leq 4 \rightarrow (-\infty, 4]$ $4 \geq \sqrt{2}x$
 $\downarrow$
 $[4, -4]$ جواب = $[4, -4]$

ب) $y = \sqrt{3 - \sqrt{x-2}} \rightarrow \sqrt{x-2} \geq 0$ $3 - \sqrt{x-2} \geq 0$
 $x \geq 2 \rightarrow [2, +\infty)$ $3 \geq \sqrt{x-2} \rightarrow x \leq 11$ 11]
جواب = $[2, 11]$

الف) $y = \sqrt{4 - 2x^2}$ $4 - 2x^2 \geq 0 \rightarrow 2(2 - x^2) \geq 0$

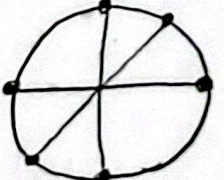
ب) $y = \sqrt{2|x| - 9}$ $2|x| - 9 \geq 0$
 $2|x| \geq 9 \rightarrow (-\infty, -\frac{9}{2}] \cup [\frac{9}{2}, +\infty)$

الف) $y = \sqrt{\frac{|x|+1}{|x|-3}}$ $|x| - 3 \neq 0$ $|x| \neq 3 \Rightarrow D_f = \mathbb{R} - \{3\}$

ب) $y = \sqrt{\frac{\sqrt{x+1}}{\sqrt{x}-3}}$ $\sqrt{x+1} \neq 0$ $\sqrt{x} \neq 3$ $x \neq 9$ $D_f = \mathbb{R} - \{9\}$

الف) $y = \frac{\sin x}{2 \cos x - 1}$ $2 \cos x - 1 \neq 0$ $\cos x \neq \frac{1}{2}$  $D_f = \mathbb{R} - \{2k\pi + \frac{\pi}{3}, 2k\pi + \frac{5\pi}{3}\}$ - 1

ب) $y = \frac{\cos x + 1}{2 \sin x + 1}$ $2 \sin x + 1 \neq 0 \rightarrow \sin x \neq -\frac{1}{2}$  $D_f = \mathbb{R} - \{2k\pi + \frac{7\pi}{6}, 2k\pi + \frac{11\pi}{6}\}$

ج) $y = \frac{\tan x + 2}{\cot x - 1}$ $\cos \neq 0$ $\sin \neq 0$ $\cot \neq 1$  $D_f = \mathbb{R} - \{k\pi + \frac{\pi}{4}, k\pi + \frac{5\pi}{4}\}$

د) $y = \frac{\sin x - 1}{2 \sin^2 x - 3}$ $2 \sin^2 x - 3 \neq 0 \rightarrow \sin^2 x \neq \frac{3}{2} \rightarrow \sin x \neq \pm \frac{\sqrt{6}}{2}$ 
 $D_f = \mathbb{R} - \{2k\pi + \frac{\pi}{3}, 2k\pi + \frac{2\pi}{3}\}$

$y = \frac{1}{2|x-2| - \frac{1}{2}}$ $2|x-2| - \frac{1}{2} > 0$ $2|x-2| > \frac{1}{2} \rightarrow |x-2| > \frac{1}{4}$ $x < \frac{7}{4}$ $x > \frac{9}{4}$
 $y = \frac{1}{2(-x+2) - \frac{1}{2}}$ $-2x+4 - \frac{1}{2} > 0$ $-2x > -\frac{7}{2} \rightarrow x < \frac{7}{4}$ $y = \frac{1}{2(x-2) - \frac{1}{2}}$ $2x-4 - \frac{1}{2} > 0$ $2x > \frac{9}{2} \rightarrow x > \frac{9}{4}$
 $D_f = (-\infty, \frac{7}{4}) \cup (\frac{9}{4}, +\infty)$ - 1.

الف) $y = \sqrt{4 - 2|x|}$ $4 - 2|x| \geq 0$ $|x| \leq 2$ $x = 2, -2$ $x = 0$ $[-2, 2]$

ب) $y = \sqrt{\frac{|x|}{|x|}}$ $\frac{|x|}{|x|} \geq 0$ $D_f = \mathbb{R} - \{0\}$ $\frac{|x|}{|x|} = 1$ جواب = $\mathbb{R} - \{0\}$